CLAIMS

What is claimed is:

1. A refiner for refining stock comprising:

a housing having an instrument port therein that is disposed adjacent an instrument port that extends through a stationary refiner disk holder to a refiner disk mounted to the disk holder with the refiner disk being comprised of a plurality of refiner disk segments that each have a refining surface defined by a plurality of refiner bars and grooves and a backside;

at least one sensor assembly disposed in a pocket in the refining surface of one of the refiner disk segments and having a plurality of sensor wires extending therefrom;

a sensor carrier carried disposed adjacent the backside of one of the refiner disk segments and housing the plurality of sensor wires;

a sensor connector disposed adjacent the backside of one of the refiner disk segments and having an electrical connector to which the plurality of sensor wires connect; and

a conduit arrangement received in the instrument ports of the refiner housing and the stationary refiner disk holder with the conduit arrangement housing an electrical connector that releasably couples with the electrical connector of the sensor connector.

2. The refiner of claim 1 wherein the sensor carrier is mounted to the backside of one

of the refiner disk segments, the sensor connector is mounted to the backside of an adjacent one of the refiner disk segments, and further comprising a conduit that houses the plurality of sensor wires extending from the sensor carrier to the sensor connector.

3. The refiner of claim 2 wherein the sensor connector comprises a puck that has the electrical connector extending outwardly therefrom.

4. The refiner of claim 3 wherein the puck further comprises a pedestal that extends outwardly from a body of the puck and carries a seal, and wherein the electrical connector extends outwardly from the pedestal.

5. The refiner of claim 2 wherein there are a plurality of the sensors that are each fixed to the sensor carrier, and wherein the sensor carrier comprises a hollow manifold..

6. The refiner of claim 1 wherein the conduit arrangement comprises a rigid and tubular conduit that steam tightly engages the sensor connector.

7. The refiner of claim 1 wherein the conduit arrangement comprises a rigid and tubular outer conduit in which a tube is disposed in which sensor wiring housing is disposed.

8. The refiner of claim 1 wherein the sensor assembly comprises a tubular base, a frustoconical cap attached to the base with the frustoconical cap having a flat from which

a sensing element bulb projects, and a sensing element carried by the sensor element bulb.

9. The refiner of claim 8 wherein the sensing element comprises a temperature sensing element.

10. The refiner of claim 8 wherein the sensing element comprises a pressure sensing element.

11. A refiner for refining stock comprising:

a housing having an instrument port therein that is disposed adjacent an instrument port that extends through a stationary refiner disk holder to a refiner disk mounted to the disk holder with the refiner disk being comprised of a plurality of refiner disk segments that each have a refining surface defined by a plurality of refiner bars and grooves and a backside;

at least one sensor assembly disposed in a pocket in the refining surface of one of the refiner disk segments and having a plurality of sensor wires extending therefrom;

a sensor carrier carried disposed adjacent the backside of one of the refiner disk segments and housing the plurality of sensor wires;

a sensor connector disposed adjacent the backside of an adjacent one of the refiner disk segments and having an electrical connector to which the plurality of sensor wires connect with the electrical connector disposed in line with the instrument ports; and

a conduit arrangement received in the instrument ports of the refiner housing and

the stationary refiner disk holder with the conduit arrangement carrying an electrical connector that releasably couples with the electrical connector of the sensor connector.

12. A refiner disk for a rotary disk refiner comprising:

a plurality of refiner disk segments that each have a refining surface defined by a plurality of refiner bars and grooves and a backside;

at least one sensor assembly disposed in a pocket in the refining surface of one of the refiner disk segments and having a plurality of sensor wires extending therefrom;

a sensor carrier carried disposed adjacent the backside of one of the refiner disk segments and housing the plurality of sensor wires;

a sensor connector disposed adjacent the backside of one of the refiner disk segments and having an electrical connector to which the plurality of sensor wires connect; and

a conduit arrangement having an electrical connector that releasably couples with the electrical connector of the sensor connector.

13. The refiner disk of claim 12 wherein the sensor carrier is mounted to the backside of one of the refiner disk segments, the sensor connector is mounted to the backside of an adjacent one of the refiner disk segments, and further comprising a conduit that houses the plurality of sensor wires extending from the sensor carrier to the sensor connector.

14. The refiner disk of claim 13 wherein the sensor connector comprises a puck that has the electrical connector extending outwardly therefrom.

15. The refiner disk of claim 14 wherein the puck further comprises a pedestal that extends outwardly from a body of the puck and carries a seal, and wherein the electrical connector extends outwardly from the pedestal.

16. The refiner disk of claim 13 wherein there are a plurality of the sensors that are each fixed to the sensor carrier, and wherein the sensor carrier comprises a hollow manifold.

17. The refiner disk of claim 12 wherein the conduit arrangement comprises a rigid and tubular conduit that steam tightly engages the sensor connector.

18. The refiner disk of claim 12 wherein the conduit arrangement comprises a rigid and tubular outer conduit in which a tube is disposed in which sensor wiring housing is disposed.

19. The refiner disk of claim 12 wherein the sensor assembly comprises a tubular base, a frustoconical cap attached to the base with the frustoconical cap having a flat from

which a sensing element bulb projects, and a sensing element carried by the sensor element bulb.

20. The refiner disk of claim 19 wherein the base is threadably received in the sensor carrier.